

FLIGHT

The
AIRCRAFT
ENGINEER
&
AIRSHIPS

First Aero Weekly in the World

Founder and Editor: STANLEY SPOONER

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport

OFFICIAL ORGAN OF THE ROYAL AERO CLUB OF THE UNITED KINGDOM

No. 901. (No. 13, Vol. XVIII.)

APRIL 1, 1926

Weekly, Price 6d.
Post free, 7d.**Flight***The Aircraft Engineer and Airships*

Editorial Offices: 36, GREAT QUEEN STREET, KINGSWAY, W.C.2.

Telegrams: Truditur, Westcent, London. Telephone: Gerrard 1828.

Annual Subscription Rates, Post Free.

United Kingdom .. 30s. 4d. Abroad .. 33s. 0d.*

These rates are subject to any alteration found necessary under abnormal conditions and to increases in postage rates.

* Foreign subscriptions must be remitted in British currency.

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DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in the following list:—

1926	
April 8	Marchese de Pinedo, "A 35,000 Miles Flight," before R.Ae.S.
April 13	Mr. S. H. Evans, A.F.R.Ae.S., M.I.Ae.E. "The Performance of Modern Aircraft—with special reference to the Variable Wing," before Inst.Ae.E.
April 21	Inst.Ae.E. visit to Messrs. D. Napier and Son, Acton.
April 22	Capt. G. T. R. Hill. "The Tailless Aeroplane," before R.Ae.S.
April 29	Lieut.-Col. V. C. Richmond. "Results of Recent Airship Flight Tests," before R.Ae.S.
May	Gordon-Bennett Balloon Race.
May 11	Capt. W. H. Sayers. "The Modern Theory of Aerofoils and its Application to Aeroplane Design," before Inst.Ae.E.
May 19	Inst. Ae.E. visit to the National Physical Laboratory, Teddington.
June 12	Inst. Ae.E. visit to Croydon Aerodrome.
July —	German Seaplane Competition at Warnemunde.
Aug.	Light Aeroplane Competition.
Oct. 24	Schneider Cup Race at Norfolk, Virginia, U.S.A.

EDITORIAL COMMENT.

WHAT Australia has done in the past for British aviation is not altogether easily assessed. That it is a very great deal will be readily agreed. During the war 1914-18 she gave us a number of fine pilots. After the war she took up civil aviation, and the present Australian air lines are among the few in the world which are really worth while. Australian aviators have made history in many ways, notably by some very wonderful long-distance flights, such as the flight from London to Australia by Sir Ross and Sir Keith Smith, and the flight around Australia by Wing-Commander Goble, to mention but two. That there is a great future before commercial aviation in Australia nobody who has made any sort of study of the subject can doubt, and altogether Australia is a country worth watching closely where Empire communication is concerned. Quite recently Australia has given another proof of her determination to make every possible use of the air, and it so happens that in this instance Australia has given a lead which the mother country might well follow with advantage. We refer to the order placed with the de Havilland Aircraft Company for a four-seater D.H.50 fitted with floats, for the use of the Governor-General of Australia, Lord Stonehaven. This machine is illustrated elsewhere in this issue of FLIGHT, and it should be noted that the order represents *two* milestones, so to speak. For the first time in history a Governor-General of one of the British Dominions proposes to employ aircraft for his personal use; and also for the first time in history a highly-placed personage has ordered a seaplane. Taken together, the two are not without significance.

It is a regrettable fact that up to the present, society in Great Britain has not taken to the air to the extent that might have been desired. It is true that two noble Lords at least hold aviator's certificates and that two Royal Princes are Group Captains in the Royal Air Force, but generally speaking the air has not succeeded in attracting society in the

same universal way as has motoring. That this will come ultimately there cannot be a trace of doubt but in the meantime every step which tends towards bringing nearer the day when those who can afford them will make extensive use of aircraft is to be welcomed, and as such a step we particularly regard the purchase of a D.H.50 for Lord Stonehaven. That the machine will greatly assist the Governor-General of Australia in his duties is without question. Australia is a country of vast distances, and flying is in many instances the only way in which these distances can be covered within reasonable time.

That the choice of machine should have fallen on a seaplane is, if not surprising, at least significant. For very many years the seaplane was sadly neglected, and although there are signs that the type is at last to come into much greater general use, the years of neglect have left the seaplane with a good deal of leeway to make up. This it is rapidly doing, but the fact remains that hitherto the use of the seaplane has been confined almost entirely to service purposes, and as regards private flying the seaplane has failed to "catch on," to use a colloquial expression. That this should be so is somewhat surprising, since the seaplane has much to offer which the landplane cannot give. We had the good fortune to make a flight in the D.H.50 at Rochester last week, and the experience was wholly delightful, giving a feeling of security which is only equalled, in the landplane, when flying over, or in the vicinity of, an aerodrome. There cannot be the slightest doubt that the seaplane deserves to become much more popular than it is at the moment, and if the Air Ministry is really anxious to foster the "air sense" every encouragement should be given to the seaplane type of machine.

We should like to see seaplane flying developed on the lines of the light 'plane clubs, but before that is possible it will be necessary to find out whether a really serviceable seaplane can be produced which will require no more engine power than that employed in the land planes of the light 'plane clubs. Fortunately at least one machine is now nearing completion, which should thoroughly test out this problem. We refer to the Short "Mussel" described in FLIGHT recently, which is fitted with the same type of engine as that used by the light 'plane clubs, i.e. the A.D.C. "Cirrus". There is also quite a good possibility that the de Havilland "Moth" would be able to "unstick" if fitted with floats, and the experiment appears at any rate worth making. If it should be proved that a two-seater with this low power is adequate in seaplane form, the possibility of development on seaplane lines becomes much more attractive, and personally we do not see why, by careful design, 65 h.p. or so should not be sufficient to give all the power reserve required. In the meantime, the use of a somewhat larger, but still quite economical, machine by the Governor-General of Australia should do much to popularise the type in that country, and it is for this reason that we regard the event as one that may in time prove to be one of some importance in the development of aviation.

Private Flying

The result of the series of conferences which have been taking place during the last two months or so between representatives of the Royal Aero Club, the S.B.A.C., and the Air Ministry concerning the regulations governing private flying appears to be a compromise, and like all compromises it is not wholly satisfactory. Many of the restrictions hitherto imposed have been abandoned, it is true, but sufficient still remain to be irksome to a not inconsiderable extent. Perhaps the most important is the regulation concerning certificates of airworthiness, and it is gratifying to find that this, at least, is to be removed from the Air Ministry and "entrusted" to the constructors. A number of "approved" firms will graciously be permitted to build machines, theoretically without Air Ministry interference, but in practice, it is feared, only by giving the Air Ministry an undertaking that the machines are built up to Air Ministry standards. Apart from the fact that there is a nasty taste of condescension in the word "approved," the new regulation undoubtedly does represent a considerable concession on the part of the Air Ministry, and we seem to be at any rate this much to the good, that an "approved" constructor may produce a machine in which the stipulated load factors are present, even if they are attained in ways looked upon with horror by Farnborough. Much the same seems to apply to engines used in private machines. Here again "approved" firms will be permitted to produce their engines in their own "damn tinker fashion," but they must assure the Air Ministry that the engines are really fit for heroes to use in their machines. Why exactly this should be necessary is not very clear. The manufacturer of a 1 $\frac{3}{4}$ -h.p. two-stroke does not have to give the Ministry of Transport his word as a gentleman that his power plant does not incorporate any feature which would make an official of the Ministry blush with shame. Why, then, should the Air Ministry take upon itself the right to "approve" one firm and not another. In any case, what is private flying? At present the definition of private flying seems somewhat vague.

The inspection by a ground engineer after overhaul or repairs is to be abandoned, and presumably the owner of a machine is to be permitted to use his own judgment as to whether a repair has been properly carried out or not. Another irksome restriction has, fortunately, been cancelled, i.e., the necessity for carrying a log book. Thus the owner of an aeroplane may take a friend of either sex to Brighton without having to tell the Air Ministry how or why, but if the flight extends beyond the coast line, a log book is still to be carried. This, although annoying, is probably inevitable.

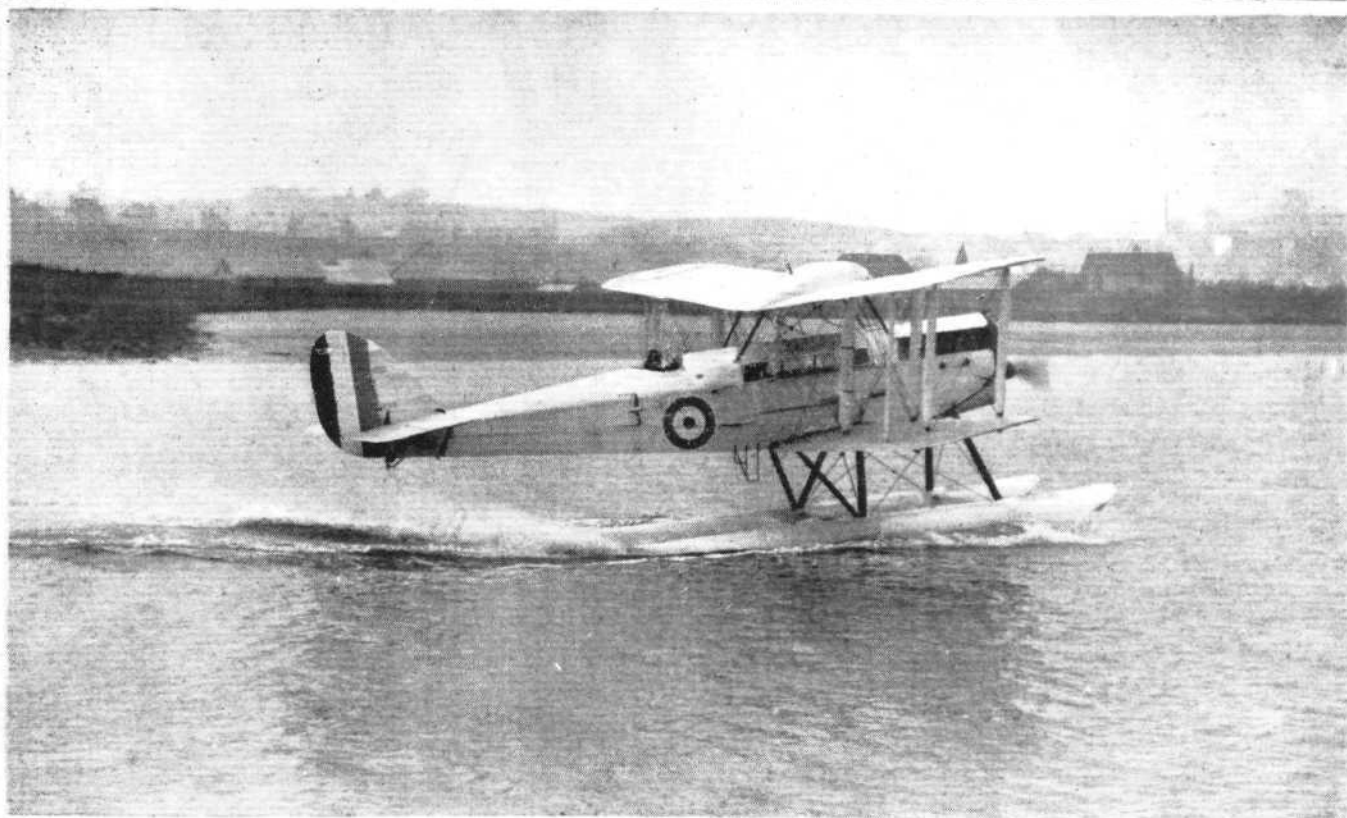
As regards the pilot himself, he still has to undergo the usual practical and theoretical examination, and the medical examination is also retained, although in this case the subsequent re-examination will not be required. Altogether the new regulations may be said to mark a short step in advance, even if they do not go quite as far as many could have wished.

An Avro "Gosport" for Lancashire Ae.C.

On April 16 Sir William Letts will present the Lancashire Aero Club with a new Avro "Gosport" biplane, which will be accepted, on behalf of the Club, by Sir Charles Wakefield.

The machine is at the moment receiving the finishing

touches at the Avro Works, Manchester, where it is being doped in the Club colours—silver and dark blue; it is fitted with a 110 Mono engine. The "Gosport" is the latest type of Avro and the Lancashire Aero Club will have the first of these machines to be delivered. Mr. Bert Hinkler will put the new 'bus through its paces.



[FLIGHT Photographs]

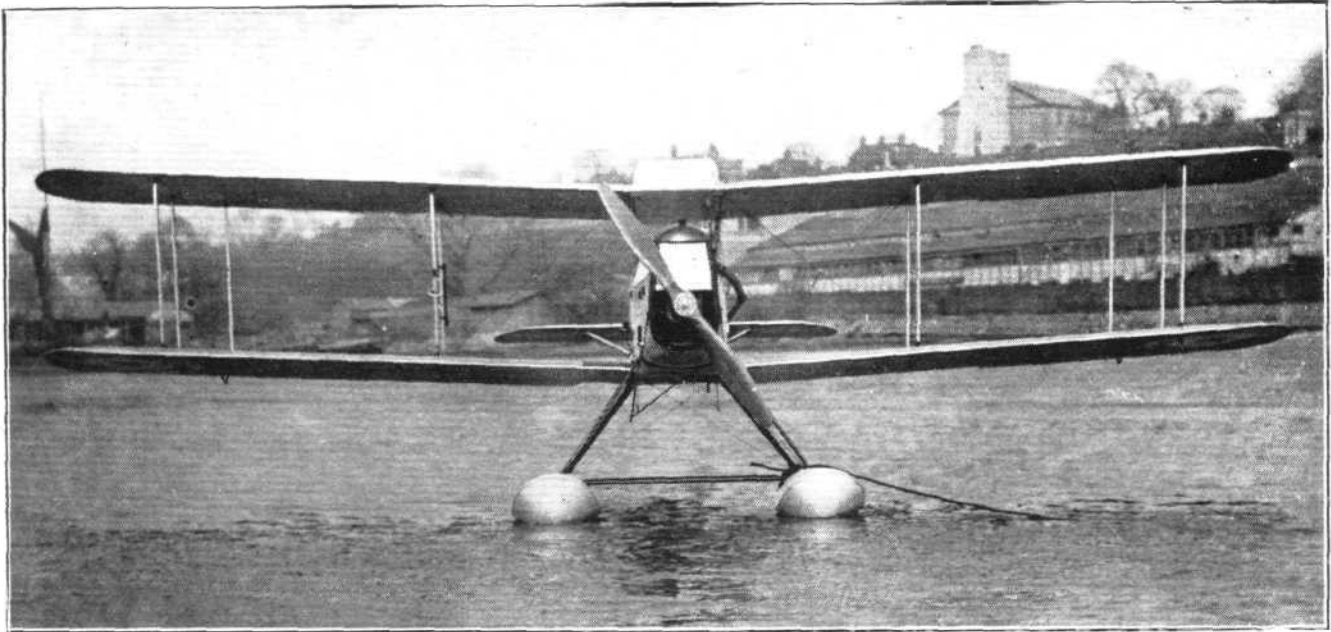
CLEAN RUNNING : Two views of the D.H.50, fitted with floats, which has been built for Lord Stonehaven, Governor-General of Australia. The absence of spray is most noticeable, and the machine appears to have no tendency to porpoise.

SEAPLANE FOR G.G. OF AUSTRALIA

The Ubiquitous D.H.50 Fitted with Floats

SINCE obtaining first prize in the competitions at Gothenburg some years ago, the D.H.50 has scored a long series of successes in its original form, fitted with a 230-h.p. Siddeley Puma engine. To take but one out of many, mention may be made

It might have been thought that the possibilities of the type, which is now several years old, had been exhausted, but that this is very far from being the case was demonstrated last week when, by the courtesy of the De Havilland Air



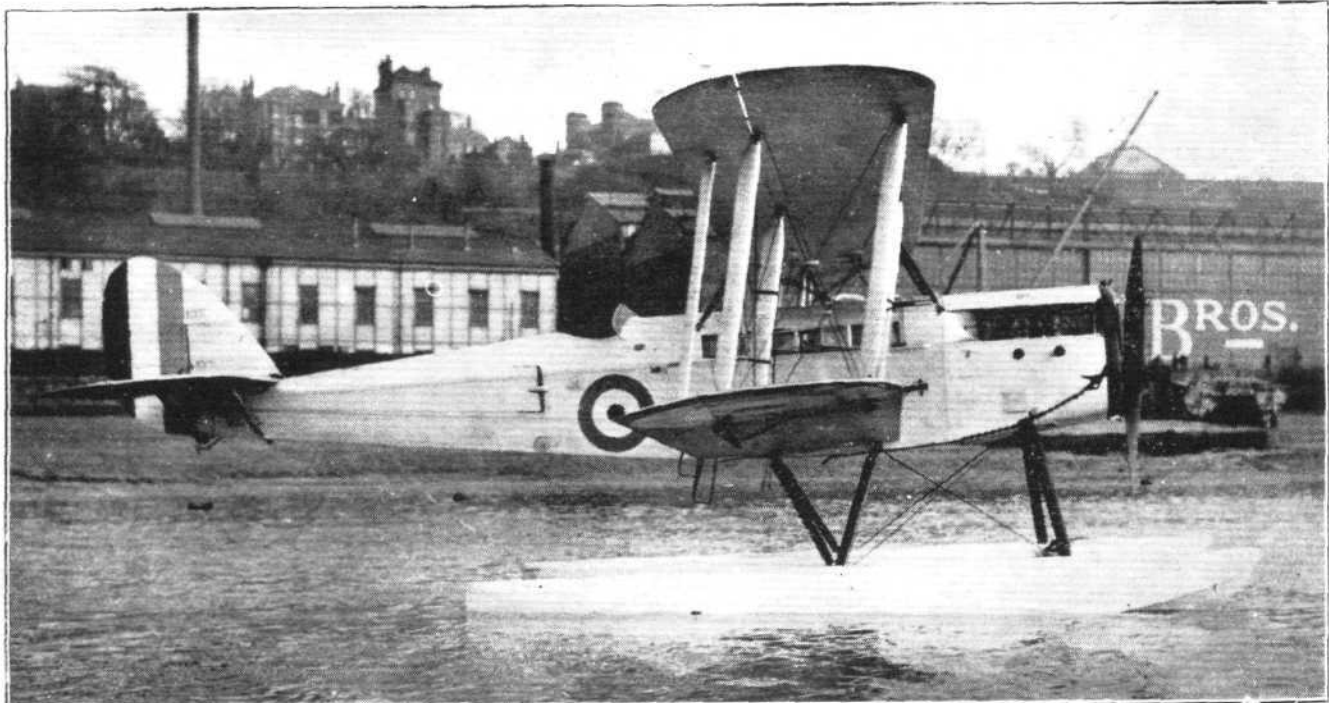
[FLIGHT Photograph]

D.H. 50 AS A SEAPLANE : This front view shows the clean lines of the machine.

of Cobham's flight last year with Sir Sefton Brancker as passenger from London to Rangoon and back. The recent flight by the same pilot from London to Cape Town and back may perhaps be said to have been the high-water mark as

craft Company, we were enabled to inspect the machine at the Rochester works of Short Brothers, where a D.H.50 has been fitted with Duralumin floats built at the Short works.

This particular machine has been constructed for Lord



[FLIGHT Photograph]

LORD STONEHAVEN'S D.H.50 : Side View.

regards outstanding performances, and in this flight, it will be remembered, the machine was fitted with an Armstrong Siddeley Jaguar of 385 h.p., so as to give it a greater power reserve for getting off some of the aerodromes in Africa, which are situated in a very hot climate and at considerable height.

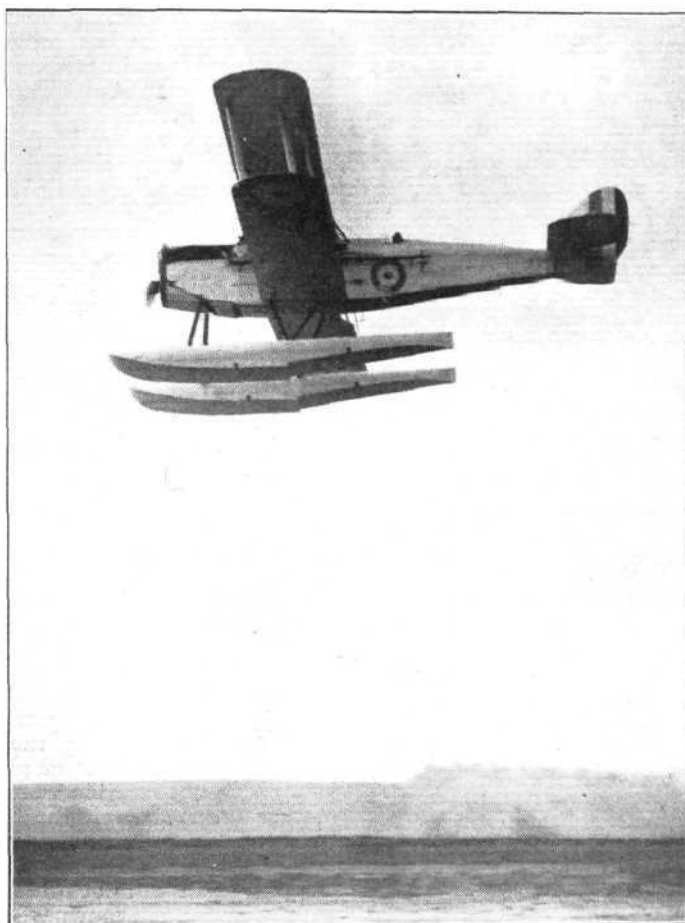
Stonehaven, Governor-General of Australia, who has doubtless been influenced in his choice of machine by the very excellent work done in Australia by D.H.50's of the original land 'plane type. The conversion of the 50 into a seaplane has not necessitated any alterations to the machine itself, and in this connection it is interesting to note that the sub-

stitution of floats for the wheel undercarriage has only, if the air speed indicator is to be trusted, resulted in a loss of 2 m.p.h. in top speed. If this figure is correct, and there is reason to believe that it is at any rate approximately so, it speaks well for the low head resistance of the floats built for the machine by Short Brothers.

As a type the floats built for the D.H.50 are similar to those employed on the Schneider Cup racers last year, which, it may be recollected, caused very favourable comment in the United States, where their clean running and general excellence were frankly admitted. That the floats built by Short Brothers for the 50 incorporate this feature of clean running and absence of tendency to porpoise, was very evident on our visit to Rochester last week, when we were privileged to make a flight in the machine and thus experience for ourselves the qualities of the machine and of its floats.

Constructionally, the floats, which are of the V-bottom single step domed-top type, are built throughout of Duralumin, with a central partition or keelson running from nose to heel and intersected at intervals by transverse bulkheads which divide the float into a number of water-tight compartments. Painted with Ryland's white enamel inside and out, according to usual Short practice, the floats are of extraordinarily neat appearance, and the V-bottom was found to absorb shock admirably, there being not a trace of a bump or jolt on alighting, although the floats are rigidly attached to the undercarriage structure.

On the day of our visit to Rochester, the weather conditions



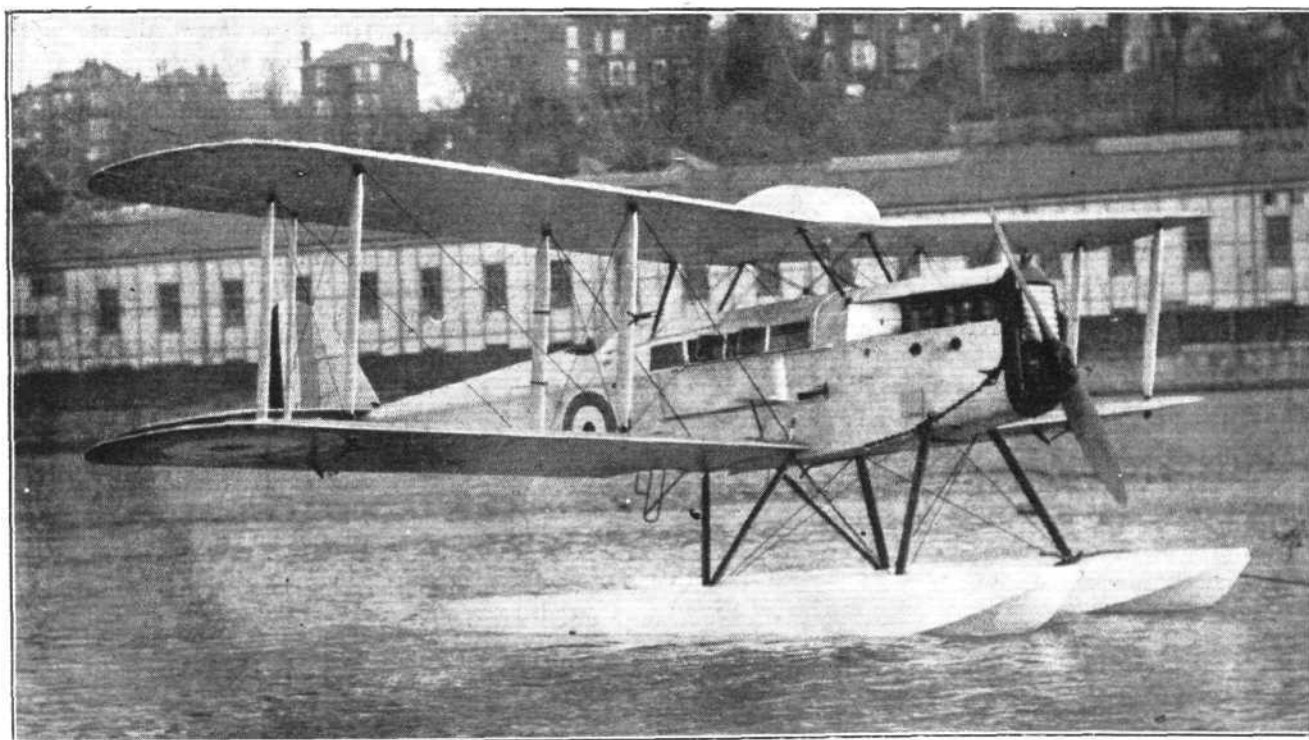
["FLIGHT" Photograph]
THE FLY-PAST: The D.H.50 passing the Rochester works of Short Brothers, piloted by Capt. Broad.

were extremely favourable, it is true, there being scarcely a ripple on the Medway, and the wind blowing down river, giving plenty of space for getting off and gaining altitude against what little wind there was. There is, however, no reason to doubt that the floats would behave equally well in a moderate seaway, such as may be encountered on lakes or river estuaries. A machine of the size of the D.H.50 could not be expected to be capable of alighting on the open sea in rough weather, in the manner of some of our largest flying-boats, but should be admirably capable of alighting on and taking off from reasonably sheltered water under all conditions.

With Capt. Hubert Broad in the pilot's cockpit and Mr. Hearle and the writer in the cabin, the Puma engine was warmed up for a few minutes, and then the moorings were cast off and the machine was taxied from the slipway of Short Brothers up towards the bridge over the Medway. While taxiing down wind before the take-off, the extremely smooth running was particularly noticed, and upon reaching the neighbourhood of the bridge, the machine was turned head to wind in a remarkably small circle, appearing to handle at least as well

on the water as does the normal D.H.50 on an aerodrome.

As Broad opened the throttle wide and the machine began to gather speed, a careful watch was kept for any signs of porpoising, but not a trace was discovered. Looking out of the cabin window and towards the tail, a feature which impressed one was the relative absence of spray. Instead of the clouds of spray going up on each side, so familiar on seaplanes of some years ago, there was a very faint spray,



["FLIGHT" Photograph]
Three-quarter front view of the D.H.50 fitted with floats built by Short Brothers, a portion of whose works may be seen in the background.

apparently not more than 2 or 3 ft. high, which seemed to be flung outwards rather than upwards, and, doubtless as a result of the particular design of float, the spray instead of drenching the tail of the machine, seemed to be tucked under the tail, which, so far as one could gather, did not get a drop of water on it. The run for the take-off appeared rather long, but presently it was discovered that this was accounted for not by any inability on the part of the machine to get off in a shorter run, but because Capt. Broad was deliberately holding it down in order to give our photographer an opportunity of photographing the machine while running. The moment this picture had been secured, Capt. Broad took the machine off, and it left the water absolutely without a trace of shock. One has recollections of getting unstuck in a seaplane in the earlier days of flying, when the sensation on unsticking irresistibly reminded one of a cork being pulled out of a bottle. Of this there is not a trace in the D.H.50.

For the next half-hour or so we flew up and down above the river Medway, circled over Strood and Rochester, always with a feeling of perfect safety owing to the presence everywhere of river or harbour below upon which at any time a forced landing could be made if necessary. It is very much to be doubted whether similar safety is ever possible in the immediate vicinity of a town, and the flight left one with a strong confirmation of one's belief in the advisability of encouraging to a much greater extent than has been the case hitherto the flying of seaplanes. Of late years there seems to have been a tendency to think of the seaplane in terms of the large flying-boat only, but we are quite convinced that for pleasure and sport, the small and relatively low-powered seaplane has a very great deal to recommend it. On one occasion during the flight Capt. Broad piloted the D.H. 50 up the river Medway, flying about 30 feet above the river and following its windings as would a boat. The sensation was wholly delightful, the more so as it was realised that never at any time was there a trace of danger, since even in the case of a sudden engine stoppage, in itself a rather remote possibility, it would always have been possible to make a forced landing into the wind. Although the banks of the river Medway above Rochester are not particularly picturesque, the cement works being designed for utility rather than adornment of the landscape, the flight made one realise how delightful it might be touring in a seaplane and flying over a river somewhat wider than the Medway and with beautiful natural surroundings.

Several times during the flight Capt. Broad brought the machine down on the water, taxied a short distance, and took off again, and never at any time was there the slightest sign of jolt or jar upon alighting, a fact which speaks well for both the design and construction of the Short Duralumin floats. One cannot help thinking that the Governor-General of Australia has chosen very wisely in deciding upon the D.H.50 seaplane for his personal use. The cabin of the machine, although small, is very comfortable. There is, of course, a total absence of draught and thanks to the peculiar design of the wind deflectors over the windows on the star-board side, the air in the cabin seems always to be fresh; much more so in fact than in the much larger cabins of several air liners.

Concerning the machine itself, there is little need to say anything, as it has already been fully described in *FLIGHT*, and will be familiar to our readers in all its details. As already mentioned, the machine itself has not been altered except for the substitution of floats for the wheels. The painting of the machine has, however, been changed, and the light aluminium paint seems to suit the machine rather better than the dark blue with which the De Havilland machines are usually painted. Always a rather pretty machine as fitted with the Puma engine, the D.H.50 seaplane, painted in aluminium, is perhaps even more "eyeable" and it would indeed be difficult to suggest any improvement. We believe, however, that the makers of the machine are contemplating certain minor changes which, without affecting the performance of the machine, should tend towards even greater comfort for the passengers. One of these we believe will consist in widening the fuselage by some 6 in., which should have the effect of giving ample room for two to sit side by side, a position which at present is just the least bit cramped, especially if the two passengers so placed happen to be of fairly generous proportions. As a touring seaplane the D.H.50 impressed one as being very nearly ideal, and as presumably it will not often be called upon to fly with a full load of petrol and four passengers, the relatively lower power of the engine should in most cases be sufficient. Perhaps in conclusion one may express the hope that if the slightly modified version is produced it will be fitted with the A.D.C. "Nimbus" engine, the extra power of which, for the same weight, should enable the machine to unstick after a very short run, while maintaining the beautiful clean lines of the nose as when fitted with the Puma.

PRIVATE FLYING REGULATIONS

As previously reported in *FLIGHT*, the question of modifying the regulations governing private flying has been under consideration for some time, and during the past few weeks consultations between the Air Ministry and the leading aeronautical bodies—the Royal Aero Club, the Royal Aeronautical Society, the Air League, the Society of British Aircraft Constructors, etc.—have been held, at which the British private owners (aeroplane) were invited to attend and who came in their thousands, viz.: Capt. Frank Courtney, Capt. Geoffrey de Havilland, Dr. Whitehead Reid and Air Commodore J. G. Weir.

These consultations have resulted in several changes in the existing regulations, which will, it is hoped, give an impetus to private flying. The changes, or otherwise, which will continue for an experimental period of five years, but which may be reviewed earlier if considered advisable by the Air Ministry, are as follows:—

(a) Issue of Certificate of Airworthiness

- (i) The Air Ministry will issue, in respect of both type and subsequent aircraft, a Certificate of Airworthiness, valid for private flying purposes only, on receipt of a certificate from an "approved" constructor.
- (ii) This certificate must state that the aircraft has been built by an "approved" constructor in accordance with the inspection requirements set forth in Air Navigation Directions and conforms in all particulars with the British minimum requirements as regards design and performance.
- (iii) A list will be drawn up by the Air Ministry of aircraft and aero-engine constructors "approved" for this purpose.
- (iv) The existing procedure for the issue of Certificates of Airworthiness will continue to apply in all other cases.

(b) Renewal of Certificates of Airworthiness

- (i) The period of validity of a Certificate of Airworthiness will remain as at present, namely, one year.

- (ii) A Certificate signed by an "approved" constructor or licensed ground engineer or other competent person will be accepted by the Air Ministry for the purpose of renewal of a Certificate of Airworthiness of private aircraft.

(c) Subsequent Modifications and Repairs

- (i) Procedure in connection with modifications subsequent to the issue of a Certificate of Airworthiness will follow the lines indicated at (a) above for the issue of a Certificate of Airworthiness.
- (ii) Certification by a licensed ground engineer after an aircraft has been overhauled, repaired or parts of it have been replaced will no longer be required.

(d) Private Pilot's Licence

- (i) The Licence will, as now, be valid for one year.
- (ii) The practical tests and technical examination will continue to be enforced for the issue of a licence and evidence of recent reasonable flying experience will continue to be required for renewal.
- (iii) The medical examination for the issue of a licence will continue to be required, but subsequent medical re-examination for renewal of the licence will be waived.

(e) Log Books

A journey log book will not be required for flights within Great Britain and Northern Ireland, but for flights abroad a journey log book must be carried in the aircraft and contain the prescribed particulars in accordance with the requirements of the International Air Convention.

Steps will be taken to amend the Air Navigation Order and Directions as soon as possible in order to give effect to these proposals.

In addition to these changes, the question of helping the private owner as regards accommodation and aerodrome use is under consideration, and it is hoped that it will be possible to effect a reduction in fees at civilian aerodromes.

The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

COMMITTEE MEETING.

A MEETING of the Committee was held on Monday, March 22, 1926, when there were present:—Lieut.-Col. F. K. McClean, A.F.C., in the Chair, Ernest C. Bucknall, Lieut.-Col. M. O. Darby, Lord Edward A. Grosvenor, Wing-Com. T. O'B. Hubbard, M.C., Col. F. Lindsay Lloyd, C.M.G., C.B.E., F. Handley Page, C.B.E., T. O. M. Sopwith, C.B.E., and the Secretary.

Election of Members.—The following new Members were elected:—

Frederick George Binney
Lieut.-Col. Ivo Arthur Exley-Edwards
Major Frank Bernard Halford
Norman Herbert Jones
George Mark Lloyd
Flying Officer Carlos Gerald Lumsden
George William Miller
Harold Claude Peirce
Flight-Lieut. Alan Patrick Ritchie
Norman Rowbotham
John Sutro
Flight-Lieut. Alfred George Taylor
Guy Nevile Warwick.

Sub-Committees.—The reports of the House and Finance Committees were received and adopted.

Election of Committee.—The following nominations for election to the nine vacancies on the Committee were reported:

Air Vice-Marshal Sir W. S. Brancker, K.C.B., A.F.C.
Ernest C. Bucknall
Lord Edward A. Grosvenor
Major Harold Hemming, A.F.C.
E. J. B. How
Col. F. Lindsay Lloyd, C.M.G., C.B.E.
Lieut.-Col. J. T. C. Moore-Brabazon, M.C., M.P.
Lieut.-Col. M. O'Gorman, C.B.
Air Commodore C. R. Samson, C.M.G., D.S.O., R.A.F.

Aviator's Certificates.—The following Aviators' Certificates were granted:—

7982	Norman Herbert Jones	..	March 1, 1926.
7983	Dudley Alastair Nixon Watt	..	March 11, 1926.
7984	Mark Antony Lacayo	..	November 18, 1925

Airship Club.—The application of the Airship Club for the use of the Secretarial Staff and Club address was granted under certain conditions to be agreed upon.

Gold Medal Award to Mr. Alan J. Cobham.—It was unanimously decided to award the Gold Medal of the Royal Aero Club to Mr. Alan J. Cobham in recognition of his work in connection with British Aviation.

Bronze Medal Award to Mr. A. B. Elliott.—It was unanimously decided to award the Bronze Medal of the Royal Aero Club to Mr. A. B. Elliott in recognition of his work in connection with British Aviation.

Private Flying.—The report of the Sub-Committee who attended before the Air Ministry on March 12, 1926, was received.

Society of Model Aeronautical Engineers.—It was decided to extend the official recognition to the Society of Model Aeronautical Engineers for a further period of one year.

Schneider Cup.—The report of the Joint Meeting of the Royal Aero Club, Air Ministry and Society of British Aircraft Constructors was adopted and the following notice was ordered to be issued:—

"At a meeting held at the Royal Aero Club on March 19, 1926, at which representatives of the Air Ministry, Royal Aero Club, Society of British Aircraft Constructors, and others interested in the Schneider Cup contest were present, it was unanimously decided that it was inexpedient for the Royal Aero Club to make a challenge for the Schneider Cup Race this year."

GORDON BENNETT BALLOON RACE

THE Royal Aero Club has sent in a challenge to the Aero Club of Belgium, on behalf of three Competitors to compete in the Gordon Bennett Balloon Race to be held at Antwerp on May 30, 1926.

Offices: THE ROYAL AERO CLUB,

3, CLIFFORD STREET, LONDON, W. 1.

H. E. PERRIN, Secretary

LIGHT 'PLANE CLUB DOINGS

London Aeroplane Club

Fog and wind alternately during the week prevented flying, and Sunday was the only full day that could be got in. The total flying time was 7 hrs. 15 mins.

The following members had flying instruction: G. Quirk, A. R. Ogston, J. H. Saffery, R. L. Hare, T. W. Eady, K. V. Wright, W. Hay, B. B. Tucker, Miss O'Brien, N. S. Brough, J. S. M. Michie, W. E. P. Johnson, S. F. Adams.

The following members made solo flights: Mrs. S. C. Elliott-Lynn, Maj. K. M. Beaumont, G. H. Craig, Squad.-Ldr. M. E. A. Wright.

Advantage was taken of the foggy weather to change the engine in G-EBLL. The club's spare engine, which has now been fitted with dual ignition, was installed.

Members will be pleased to hear that Capt. F. G. M. Sparks, the club instructor, is making good progress. He is still at the Hendon Cottage Hospital. Squad.-Ldr. M. E. A. Wright assisted with the flying instruction during the week-end.

Donations for the purchase of a third D.H. "Moth": T. H. O. Richardson, £2; H. Kennedy, £1; G. W. Peck, £1; G. N. Howe, £1; C. N. Brand, £1. Amount previously reported, £690. Total to date, £696.

N. H. Jones, who recently took his aviator's certificate, has been given a Commission in the Auxiliary Air Force.

N. H. Jones and Mrs. Elliott-Lynn have recently acquired D.H. "Moth" G-EBKT. On Sunday morning the Middlesex Women's Athletic Association visited Stag Lane and Mrs. Elliott-Lynn was busily engaged giving 22 of them passenger flights.

D. Kittell, on his own "Moth," was flying 1 hr. 10 mins. on Saturday.

Lancashire Aero Club

FLYING has been possible on all days except Monday, Wednesday and Friday. Machines used: G-EBLV and G-EBLR.

Twenty-eight members flew. Dual 15 hrs. 10 mins.; solo, 2 hrs. 5 mins. Tests, 55 mins. Total time of machines in air, 18 hrs. 10 mins.

Mr. Stack gave instruction to: C. Agar, 1 hr. 35 mins.; A. Macnair, 1 hr. 5 mins.; S. Turner, 50 mins.; L. Slater, 45 mins.; B. Smith, 45 mins.; L. Leeming, 35 mins.; A. Annable, 30 mins.; C. Brown, 30 mins.; F. Gattrell, 30 mins.; R. Williams, 25 mins.; A. Goodyear, 20 mins.; D.

Gerrard, 20 mins.; R. Jackson, 20 mins.; E. Menzies, 20 mins.; R. Colley, 15 mins.; A. Hall, 15 mins.; D. Dyson, 15 mins.; A. Wilson, 10 mins.; G. Moss, 10 mins. Total time, 9 hrs. 55 mins.

Mr. Cantrill gave instruction to: C. Barnes, 55 mins.; C. Agar, 50 mins.; F. Gattrell, 40 mins.; H. Stern, 30 mins.; D. Tummers, 30 mins.; C. Brown, 30 mins.; B. Smith, 25 mins.; A. Braid, 10 mins. Total, 2 hrs. 50 mins.

Mr. Scholes gave instruction to: S. Crabtree, 30 mins.; A. Macnair, 25 mins.; G. Moss, 25 mins.; F. Davison, 25 mins.; C. Agar, 20 mins.; R. Williams, 20 mins. Total, 2 hrs. 25 mins.

Solo flying: M. Lacayo, 1 hr. 15 mins.; B. Smith, 50 mins.

Mr. Smith made his first solo on Thursday after just eight hours' dual instruction. His enthusiasm for flying may be judged by the fact that he comes from Blackburn—60 miles from Woodford—to learn to fly.

Members should note that the aerodrome will be closed on Good Friday.

Newcastle-upon-Tyne Aero Club

REPORT for week ending March 28: Very cold weather has prevailed throughout the week, and relatively little flying was carried out until the week-end, all on G-EBLY. Total time for week, 25 hrs. 20 mins.

Dual with Maj. Packman, 16 hrs. 25 mins., the following members flying:—

Miss Leathart, Mrs. Marks, Messrs. Irving, J. Bell, Bruce, Middleton, Bainbridge, A. Bell, George, Twine, C. Thompson, Campbell, Thirlwell, L. Smith, Edwards, Whitfield.

"A" pilots, 7 hrs. 50 mins.

Mr. W. Baxter Ellis—passengers, Capt. and Mrs. Roberts.

Mr. R. N. Thompson, with Mrs. Crosbie (among other passengers).

Mr. N. S. Todd—passengers, Miss Little, Dr. Graham.

Mr. R. M. Stobie, with Mr. Moffatt and Mr. Thompson.

Passenger flights, 45 mins. Mrs. Middleton, Mr. Longfield and Miss Bullock, all with Maj. Packman.

Mr. Ellis and Mr. Heppell flew to Bamburgh on Monday, landing there for tea, and then returning to the aerodrome, the trip taking two hours, one hour of which was spent at Bamburgh.

A number of straight flights were made by Mr. Ellis and Mr. Thompson on Sunday. Much time was spent in replacing rubber shock-absorbers, in which everybody was at one time or another called into service.

THE PANDER LIGHT BIPLANE

A School Two-Seater with 45 H.P. Anzani Engine

AFTER the success which attended the production of the light monoplane with 30 h.p. Anzani engine, which was exhibited at the last Paris Aero Show, and of which several specimens have from time to time visited this country, it is not surprising that Mr. H. Pander of The Hague, should have turned his attention to a two-seater. When we visited the Pander Works last summer we had an opportunity of seeing the sketch

illustrations, is a biplane having a very small lower plane. In other words it is of the type which has come to be described as a sesquiplan, or one-and-a-half plane. An unusual feature of the machine is the type of wing bracing employed. In order to keep the wing weight down, and also to facilitate storage and transport, it was decided not to make the top plane a pure cantilever, but as it was desired to keep the



THE PANDER TYPE E LIGHT 'PLANE : Three-quarter front view. The engine is a 45 h.p. Anzani. Note the unusual wing bracing.

design for the two-seater and also some of the parts which were then in course of manufacture at the Pander works. The machine, known as the Type E, has now been finished and was tested recently by Lieutenant Elkerbout of the Dutch Navy. The machine was found to be perfect as regards trim, and during a preliminary test flight the manoeuvrability was

external members of the wing bracing structure down to a minimum a rather unusual form of wing bracing, shown in the illustrations, was evolved. The top plane is built in two halves, pin-jointed at the centre to the cabane legs rising from the top longerons of the fuselage. Each wing half is supported by a pair of inter-plane V-struts, and the lift is



THE PANDER TYPE E LIGHT BIPLANE : Three-quarter Rear View.

proved to be excellent. Later in the day a number of passengers were given their *baptême de l'air* in the Pander, among them being Mr. Pander senior, who, although he has been an aviation enthusiast for several years, has not hitherto made a flight, the reason presumably being that hitherto his firm has produced single-seaters only.

The Pander type E, it will be seen from the accompanying

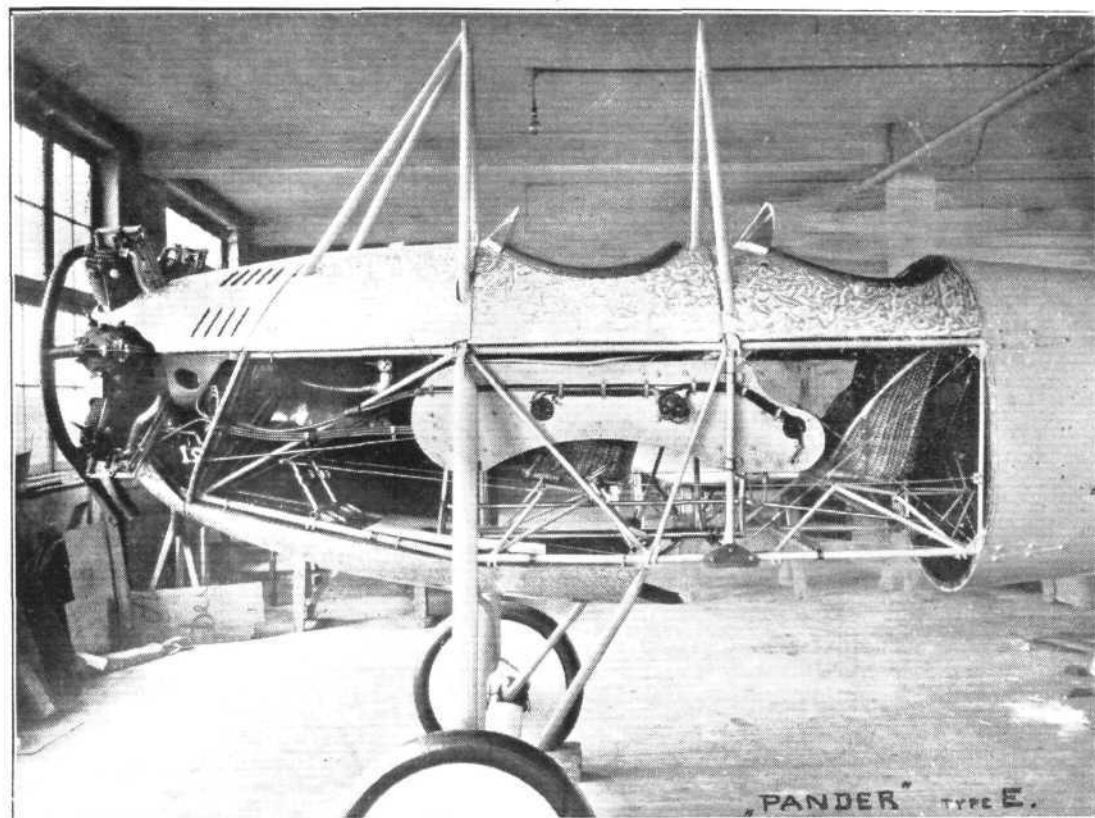
taken by a single strut sloping outwards from the top longerons of the fuselage to the foot of the V struts where these meet the lower plane. In normal straightforward flying, therefore, the V-struts are working in tension, and it is only at attitudes causing large movements of the centre of pressure that any of these struts have to resist compression loads. It would appear likely that owing to the relatively flat angles very

considerable compression loads may be present in the single sloping lift struts, but doubtless these have been built of sufficiently heavy gauge steel tubes to carry the loads imposed upon them and we are informed that the machine has been designed with a factor of safety of $7\frac{1}{2}$, so as to be eligible for its aerobatics airworthiness certificate. For the rest the Pander Type E shows very clean lines, and the view from both cockpits should be excellent, except in an upward direction, as the lower plane is of such small chord (2 ft. 9 in.) that it can scarcely obstruct the view from the rear cockpit to any material extent.

Constructionally the Pander Type E is of composite type, wood being the material used exclusively in the wing con-

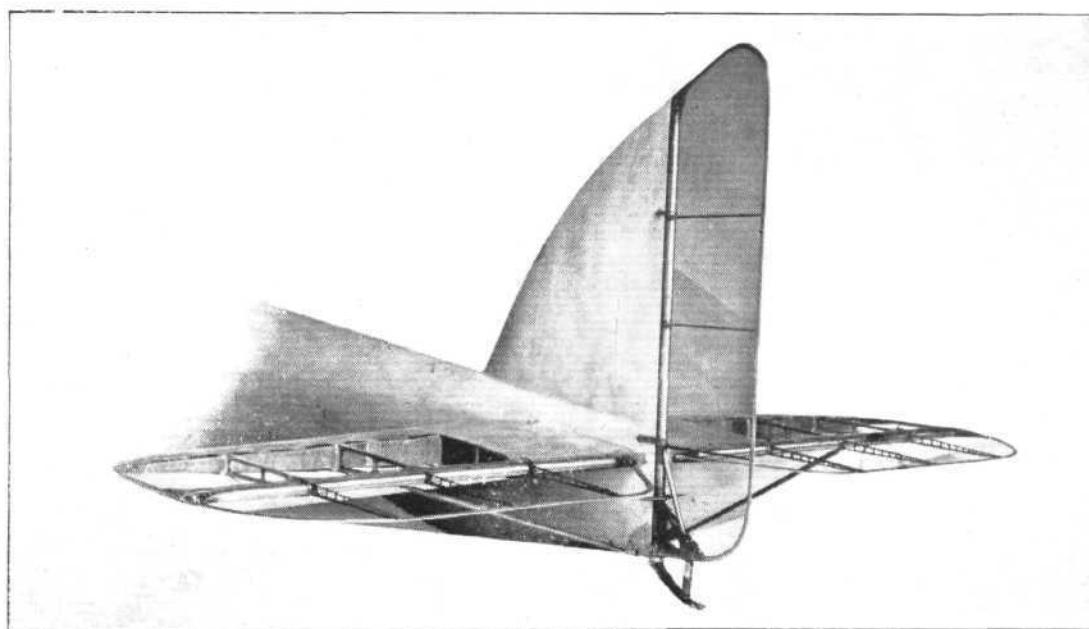
box spar is built up of spruce and three-ply and the wing is further stiffened by a three-ply covering over the leading edge, forming yet another box spar. The covering of the wings is fabric, except over the centre portion of the top plane, in which are housed the two petrol tanks (each with a capacity of $7\frac{1}{2}$ gallons), which is covered with three-ply. The inter-plane V-struts and the single lift struts are of streamlined steel tube and the rear strut of the V's has provision for adjustment of its length for the purpose of trueing-up.

The fuselage, which is of oval cross-section, is built in two halves, of which the front portion is of welded steel tube construction, the bracing being in the form of diagonal tubes as regards the forward panels, but having piano-wire



Front portion of the Pander light biplane, showing seating accommodation, etc. This portion of the fuselage is of welded steel tube construction. Note the attachment for the single spar of the lower plane.

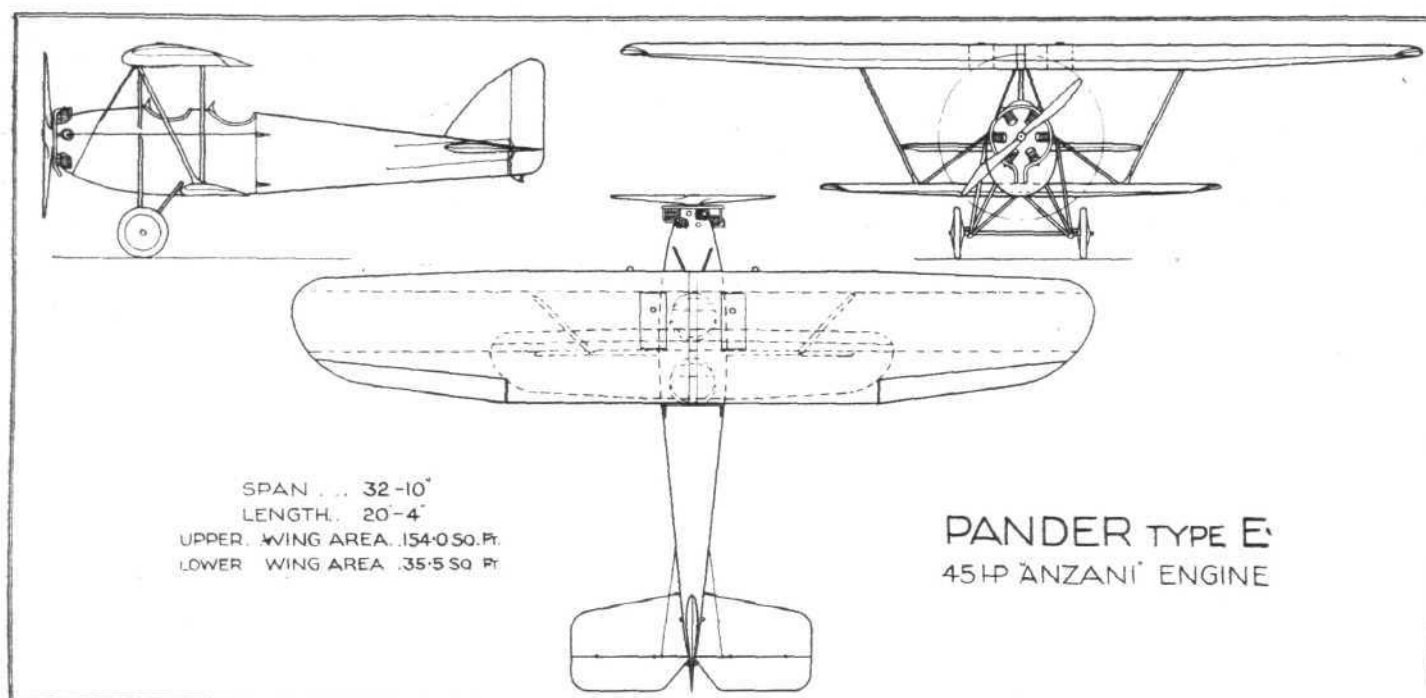
The tail of the Pander light biplane is partly of steel tubular construction. The tail skid is mounted on, and moves with, the rudder.



struction and also in the rear portion of the fuselage, while the rest of the machine, i.e., front portion of fuselage and the rudder and elevator, are of welded steel tube construction. The upper wing, which has a span of 32 ft. 10 in. and a maximum chord of 5 ft. 3 in., is built up on two main spars of box section, with spruce flanges and three-ply walls. The ribs are of three-ply, the top plane being further stiffened by having the whole leading edge, back to some distance aft of the front spar, covered with three-ply. The lower plane, which has a span of 16 ft. 5 in. has a single box spar, which measures 8 in. in width and just over 5 in. in depth. This

bracing in the side panels in way of the pilot's cockpit. The rear portion of the fuselage is of similar construction to that of the Pander single-seater, i.e., light formers and stringers covered with plywood. The two fuselage portions are joined together at four points, where long fish-plates extend aft from the steel tube longerons to form a joint with the wooden longerons of the rear portion. These fish-plates may be seen in some of the photographs.

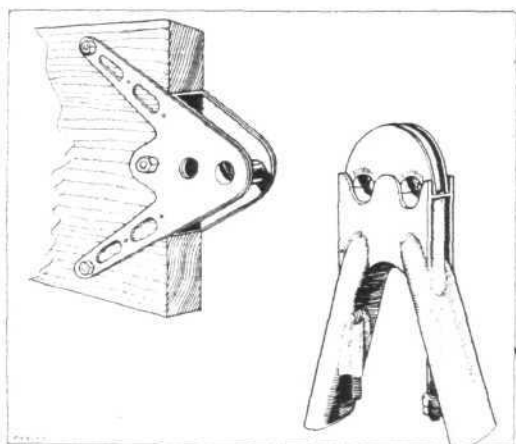
The machine is equipped with dual controls, consisting of the usual joy-stick for elevator and ailerons, but having pedals in place of the more usual foot-bar for the rudder,



THE PANDER LIGHT BIPLANE : General Arrangement Drawings, to Scale.

the pedals being more convenient in a machine in which space, and particularly width, is restricted.

The 45 h.p. 6-cylinder Anzani engine is attached at four points to the main structure of the fuselage, and a fireproof



Attachment of upper wing spar to cabane.

bulkhead is interposed between the engine and the front cockpit. The whole of the front portion of the fuselage is covered with sheet aluminium. As already mentioned the petrol tanks are carried in the top plane, so that direct gravity

feed can be employed, and the petrol system is such that the fuel can be taken from either tank or from both tanks simultaneously.

The undercarriage is of streamlined steel tubes, with the axle working in a slot in the vertical strut, and anchored in such a way by rubber cord shock-absorbers that not only can it travel up and down but is also free to move to a considerable extent laterally. The front undercarriage strut runs to the top longeron of the fuselage, while the rear strut runs to the lower longeron, the V thus formed being braced laterally, not by cables or streamlined wires as is usually done, but by short steel tube struts, sloping to the centre line of the bottom of the fuselage.

As in the Pander monoplane, the fin and tail plane are entirely of wood construction, covered with plywood and built into the fuselage. The rudder and elevator have steel tube leading edges and welded sheet-steel ribs. In order to facilitate taxiing, the tail skid is mounted on and turns with the rudder, the method of mounting it in the rudder being shown in one of the photographs.

Following is a brief specification of the Pander type E : Weight empty, 702 lbs.; total loaded weight (pilot, passenger, and 4 hours' fuel), 1,180 lbs.; total wing area, 190 sq. ft.; wing loading, 6.2 lbs./sq. ft.; engine, 45 h.p. Anzani, developing normal power at 1,500 r.p.m., and a maximum of 50 h.p. at 1,580 r.p.m.; power loading (on normal speed), 26.2 lbs./h.p.; maximum speed, 78 m.p.h.; cruising speed, 72 m.p.h.; landing speed, 38 m.p.h.; climb to 3,000 ft. in 7½ mins. Ceiling 11,500 ft.

The Cierva Autogiro Co., Ltd.

ALL followers of aviation will be interested in the announcement of the formation of the Cierva Autogiro Co., Ltd., which took place on March 24 last. This company has for its directors Mr. J. G. Weir, C.M.G., C.B.E., Chairman and Managing Director; Mr. Juan de la Cierva; and Mr. H. K. M. Kindersley. Its Chairman and Managing Director, Mr. J. G. Weir, is a well-known personality in matters of aviation, while Mr. Juan de la Cierva, a practical flying man and builder of numerous experimental aircraft, is, of course, the inventor of the Autogiro. Mr. H. K. M. Kindersley is the son of Sir Robert Kindersley, G.B.E., the well-known banker. Mr. F. T. Courtney, who is also well-known to most of our readers, has been appointed Technical Manager. This company has been formed for the purpose of research work connected with the invention and the disposal of the construction rights of the Autogiro, which demonstrated its revolutionary characteristics so successfully in the hands of Mr. Courtney at Farnboro' in October and November last. The Company's offices are at 80, Bishopsgate, E.C. 2.

Air Mails to Africa

THE Postmaster-General announces that letters may now

be posted under the usual general conditions for transmission by a new weekly air mail serving French and British West Africa as far as Sierra Leone, and, in certain weeks, the Belgian Congo. The mail will be closed at the General Post Office, London, each Wednesday at 6 p.m., beginning Wednesday, March 31, and should normally reach Dakar (French Senegal) on the following Sunday evening or Monday morning.

The air service offers, for letters to French Senegal, an advantage over the ordinary mail of from six to nine days, and a similar but somewhat less pronounced gain for letters to Gambia (Bathurst), French Guinea (Konakry), Sierra Leone and the Belgian Congo. Details of the actual advantage obtainable in each case can be supplied on application at any Head or Branch Post Office. Letters intended for transmission by the new air mail should be plainly marked below the air mail label (or manuscript equivalent) "Par avion de Toulouse à Dakar," and should be prepaid with a special fee (in addition to ordinary postage at foreign or Imperial rates according to destination) as follows:—8d. up to ½ oz.; 10d. up to 1 oz.; 1s. 2d. up to 3½ oz.; 6d. additional for each additional 3½ oz. or fraction thereof.

INTER-SERVICES RUGBY FOOTBALL

The Army v. Royal Air Force

By MAJOR F. A. DE V. ROBERTSON, V.D.

ALL followers of Rugby football expected that the Army's powerful XV would secure the Services championship this year, and the well-wishers of the Royal Air Force went to Twickenham last Saturday in a mood of hope rather than of expectation. But during the first half of the match, it really looked as if the critics might be confounded, and the hopes of the airmen turned into facts. Up to half-time, there was no scoring at all; and not only had the Air Force held their own, but they had kept the play mostly in the Army's half of the field, and had looked dangerous on several occasions. On the whole, one might say that the Air Force had slightly the better of the first half, but that unless the character of the game altered considerably, the most satisfactory result would be a draw.

It cannot, however, be said that this first half of the game produced really high-class Rugby. It was bright and cheery play, carried on at a tremendous pace, with everyone most enthusiastically doing his utmost. But it was not scientific. Neither team had "found itself," as Kipling's ship had to do, and each plate, each bolt, each shaft in the structure was trying to do its own little bit all on its own. Neither team it appeared, had played together often enough. No outside knew instinctively where his fellow would be, and so passes were given wildly. Added to this, a sharp shower had fallen just before the game began, and the ball was wet. It flew about like a piece of mercury, and the unexpected almost invariably happened. The grass, too, was slippery, and men could not keep their feet. The one sure sign that we were watching 30 first-class players, eight of them Internationals, was the hard clean tackling.

The sun came out before the R.A.F. kicked off, and Twickenham presented a cheery spectacle with the red jerseys and stockings of the Army and the light blue jerseys of the Air Force. The airmen kicked off towards the south goal, but after three minutes' play a free kick was given against them by the referee, Mr. Cumberlege. The Air Force team is still far too prone to get offside and give away free kicks. In this match they gave away nine, whereas the Army was only penalised three times. Following on the

kick, which did not find touch, the Air Force commenced an attack, and when a couple of minutes later a free kick was given against the Army, Maxwell had quite a creditable shot at goal. Soon after Lowe tried to dash through, but failed. Cass kicked ahead for the Army. Strong fumbled it, and the Air Force had to touch down. Saunders led a good rush by the Army forwards, but Lowe relieved with a very good kick into touch. It was noticeable throughout the game that Lowe was rarely able to use his running and dodging powers in attack. When he got the ball he was usually compelled to kick, and his masterly touch-finding time and again brought relief to his side. On several occasions he was so beset when he received his pass that he had to run back to get clear space for his kick, and in doing this his pace helped him. For ordinary three-quarters the rule is "running back is always wrong," but Lowe is a master who may make his own rules of tactics. As a result of one of his kicks, Wintour was nearly over. A series of Air Force attacks followed, and the ball was passed out to their three-quarters. But the Army tackling was sound. Once the Army had to touch down, but the relief was only momentary, as Chambers sent the play back with a kick which found touch in the Army 25. A series of dribbling rushes by the Air Force forwards kept up the pressure, but another free kick to the Army, well taken by Reece, relieved the pressure. One noticed during this period that the Air Force wing three-quarters, Scott and Bandon, while playing quite sound football, had not pace enough to make much of the rather ragged passes which they received.

Then the Army had a turn at attacking, chiefly through Young's breakaway movements. One of these looked very dangerous, but came to an end when Bryan slipped and fell on the wet grass. About this period the contrast between the two full backs became very noticeable. Strong, who played scrum half for Oxford in the last two Varsity matches, was short on two or three occasions in his touch finding; while Reece was playing a very fine game. He was coolness personified, and his kicking and fielding were as good as could be wished.



"FLIGHT" Photograph

OFF THE TRACK: Mr. J. King, carrying a passenger, flying under the Byfleet bridge at Brooklands on the old Sopwith "Grasshopper." This feat was first performed by the late H. G. Hawker on his little "Swallow."

The game had been going over half an hour when Dunn was hurt by the whole scrum falling on him, and had to leave the field for five minutes. On his return his game did not seem to be affected and he often made himself conspicuous. Then the Air Force three-quarters made quite a good movement, passing out to the right. Bandon ran well, and when tackled got in his kick. Chambers was prominent with a good kick, and the half-time whistle found the airmen on the aggressive.

During the first half the Air Force forwards had kept the initiative, but their three-quarter line had showed no power of breaking through the Army defence. On the other hand, the Army three-quarters, who had started raggedly enough, had been gradually playing themselves into form. This development soon made itself felt. The game had only been resumed six minutes before the Army outsiders attacked. It was not an orthodox movement, and was difficult to follow. There was some surprising passing and kicking, with the result that Bryan received when in a good position, and he ran strongly over the line in the extreme left corner. There he was tackled low, but he touched down as he fell, and the Army scored its first try. Reece's kick hit the upright.

This stirred the airmen to frantic efforts. Lowe made an opening for Scott, who looked like scoring, but had not the pace and was bundled into touch. A free kick to the Army brought no relief. Rose dribbled over the line, but was whistled back by the referee. The blue forwards got the ball and let it out, but their three-quarters were all at sea, and the passing actually lost ground. Maxwell made a heroic effort and struggled on, carrying two soldiers as well as the ball, but the addition of a third soldier brought him down.

A free kick to the Army put the Air Force on the defensive, and Strong had to touch down. Down tried to drop a goal, but the attempt was not brilliant. Chambers tried to clear with a fine dribble, but Reece baulked him with the utmost sang-froid, and the Army three-quarters again became dangerous. Young kept setting them in motion, though Russell hampered him so much that his passes out were often wild. Lowe and Chambers in turn kicked clear, and Maxwell once had a good run ending with a kick into touch in the Army 25. But the Army forwards were now getting the upper hand, and their outsiders grew more dangerous with each movement. The airmen repeatedly turned defence into attack, but only momentarily; and it was now obvious that they would be lucky if only beaten by three points. Time was the one factor in their favour—there were only seven minutes to go. But in that seven minutes the Air Force defence collapsed, and the Army scored twice. Browne got one try and the goal was kicked. Phillips, after a forward rush, went over in the far right corner for the last score, too far out for Reece to manage the goal. Then the rain came down in torrents, and every one felt relief when the whistle went for "no side."

Considering the strength of the Army team, which included six international caps (Reece of Wales, Aslett, Young, Faithfull of England, Clinch and Browne of Ireland), the Royal Air Force may be congratulated on having played them level for so long and only really collapsing in the last few minutes.

For over half the game the Air Force forwards were the better pack. Like the three-quarters, they lacked something in finish and in team work. They would screw the scrum and then lose the ball; and when Chick or Chambers went away with a dribble he was not sufficiently backed up. But they all worked hard and tackled hard, and Maxwell and Chichester in particular used their strength and weight effectively at half-back, Russell made a great fight with Young round the scrum, and each man was so closely marked that neither could send out many accurate passes. One would, of course, expect Young to have the best of it, and in the second half he did justify his reputation. Chambers was great in defence, especially with his kicks, but he did not make many good openings for his three-quarters, and they could not do much with the chances he gave them. At full back, Strong is not so good as Casey was last year. But the Air Force last Saturday was playing a much better Army team than the one with which it drew at the Stadium last year, and the defeat of 11 to 0 is nothing of which it need be ashamed.

Teams:—

The Army

Full back: *Guardsman T. E. Rees (1st Bn. Welsh Guards). *Three-quarters:*—Lieut. E. E. E. Cass, D.S.O., M.C. (1st Bn. The King's Own Yorkshire Light Infantry), *Lieut. A. R. Aslett (1st Bn. The King's Own Royal Regt.), Lieut. E. E. Down (2nd Bn. The Dorset Regt.), Lieut. G. J. Bryan (Royal Engineers).

Half backs:—*Lieut. A. T. Young (Royal Tank Corps). Lieut. R. M. Phillips (2nd Bn. The Welsh Regt.).

Forwards:—*Lieut. C. K. T. Faithfull (1st Bn. The Duke of Wellington's Regt.), Capt. B. M. Dunn, M.C. (2nd Bn. The Welch Regt.), Corporal D. Jones (1st Bn. South Wales Borderers), 2nd Lieut. D. Turquand-Young (Royal Tank Corps), Lieut. P. E. C. Honeyman (The Royal Scots Regt.), *2nd Lieut. J. D. Clinch (1st Bn. The Middlesex Regt.), *2nd Lieut. W. F. Browne (1st Bn. The Duke of Wellington's Regt.), Lieut. H. R. Saunders (Royal Artillery).

The Royal Air Force

Full back:—Pilot Officer W. I. N. Strong (No. 5 F.T.S., Sealand).

Three-quarters:—Flight-Lieut. P. G. Scott (R.A.F. Depot, Henlow), Flight-Lieut. O. C. Bryson, M.C., D.F.C., A.M. (Cadet College, Cranwell), *Sqn.-Ldr. C. N. Lowe, M.C., D.F.C. (No. 602 Squadron, Renfrew), Pilot Officer The Earl of Bandon (No. 4 Squadron, Farnborough).

Half-backs:—Sqn.-Ldr. J. C. Russell, D.S.O. (No. 3 Squadron, Upavon), Flying Officer P. J. Chambers (Cadet College, Cranwell).

Forwards:—Flight-Lieut. J. S. Chick (R.A.F., Farnborough), Flying Officer P. G. Chichester (No. 9 Squadron, Manston), Flight-Lieut. T. Rose, D.F.C. (No. 43 Squadron, Henlow), *Flight-Lieut. G. H. H. Maxwell (No. 216 Squadron), Corporal M. G. Christie (R.A.F. Depot, Shrewsbury), Flying Officer St. J. F. Wintour (Henlow, Bedford), Ldng. Aircraftsman J. F. Hampton (Record Office, Ruislip), Flying Officer C. J. S. O'Malley (Technical Training School, Halton).

* International.

IN PARLIAMENT

Life-saving Clothing

COL. DAY, on March 24, asked the Secretary of State for Air the results of the recent experiments and demonstrations of the new life-saving clothing; and whether it is intended to supply such life-saving equipment to the Royal Air Force?

Maj. Sir Philip Sassoon: The recent demonstration, to which I think the hon. and gallant member is referring, of certain flying clothing which would also keep the wearer afloat in the water, gave promising results, but a good deal of modification would be necessary before the clothing could be considered suitable for Service use. Two modified suits have been ordered, and these will be tested in due course.

Waddington Aerodrome

MR. HADYN JONES asked what was the sale price of Waddington aerodrome, near Lincoln; whether it has been decided to re-purchase it; if so, at what price; and what is the estimated cost of reconditioning it?

Sir P. Sassoon: The answer to the first part of the question is £31,274 16s. 10d., this being the total cost to the purchaser not only of the buildings, plant and material, which were Government property, but of the land, which was not, but which was purchased on his behalf in connection with the disposal transaction. Some of the land, buildings and material included in the transaction were subsequently sold off by the purchaser, leaving the net cost to him at £22,078 18s. 7d. As regards the second and third parts of the question, the aerodrome has now been re-acquired from the purchaser for the above-mentioned sum of £22,078 18s. 7d., to which must be added £220 for some land which he had sold off and £825 for additional land, making a total cost price of £23,123 18s. 7d. As regards the last part of the question, the estimated cost of reconditioning, including the erection of certain new buildings, power plant, water supply, roads, etc., is £70,000. I may add that to provide equivalent accommodation on an entirely new site would entail an expenditure approximately £80,000 in excess of that involved at Waddington.

Marchese de Pinedo's Paper at the R.Ae.S.

WE would remind our readers that the Marchese de Pinedo will be giving his paper on "A 35,000-miles Flight," before the Royal Aeronautical Society (at the Royal Society of Arts, 18, John Street, Adelphi) at 6.30 p.m. on April 8. The Chair will be taken by Air Vice-Marshal Sir Sefton Brancker, and the subject of the paper will be a most interesting one, dealing with the author's remarkable flight,

in a Savoia flying-boat, from Rome to Melbourne, Japan and back.

The Danish Flight to Tokyo

LIEUTS. BOTVED and Herschend, the two Danish pilots who are attempting to fly from Copenhagen to Tokyo, each in a Junkers machine, reached Baghdad last week. Continuing on from here on March 26, they made Karachi in three daily stages, stopping at Bushire and Bandar Abbas en route.

THE ROYAL AIR FORCE

London Gazette, March 23, 1926

General Duties Branch.

Flight Lieut. H. A. Hamersley, M.C., is granted a permanent commission in this rank (January 1). W. I. N. Strong is granted a permanent commission as Pilot Officer on probation with effect from and with seniority of March 13. The following Pilot Officers are promoted to rank of Flying Officer:—D. T. H. Hooke (since invalided) (Jan. 14, 1925); G. N. J. Stanley-Turner (Jan. 31); C. H. Morgan, S. F. Bell (Feb. 8); W. C. I. Mackenzie, R. H. Holmes, W. L. McLaren, W. F. Parkinson (Feb. 28).

Pilot Officer on probation C. W. Martin is confirmed in rank (Feb. 8). Air Commodore F. V. Holt, C.M.G., D.S.O., is placed on half-pay scale B, from March 26 to March 31 inclusive. Pilot Officer E. T. Wiltshire resigns his short service commission (Feb. 7). Flight Lieut. C. D. Fuller relinquishes his short service commission on account of ill-health, and is granted permission to retain rank of Squadron Leader (March 7). Flying Officer W. C. Adams relinquishes his short service commission on account of ill-health (March 24). Flying Officer J. N. Jaques (Lt., R.W. Kent Regt.) relinquishes his temporary commission on return to Army duty (March 11).

Stores Branch.

Flight Lieut. R. F. Osborne is granted a permanent commission in this rank (March 24). The following Pilot Officers on probation are confirmed in rank (Feb. 10):—D. J. Divett, E. J. Fishenden, P. J. Mote.

Medical Branch.

Flying Officer R. L. C. Fisher, M.B., is granted a permanent commission in this rank (March 24); M. J. Marren, M.B. is granted a short service commission as Flying Officer, for three years on active list, with effect from and with seniority of March 1.

Reserve of Air Force Officers.

C. E. M. Pickthorn, M.C., is granted a commission, in Class A, General Duties Branch, as Flying Officer in probation (March 23). S. Summerfield is granted commission in Class AA, General Duties Branch, as a Pilot Officer on probation (March 23). Flying Officer J. S. Snedden is transferred from Class A to Class C (March 3). Flying Officer W. McL. Hiron resigns his commission (March 12).

Princess Mary's R.A.F. Nursing Service.

Miss Gwendoline P. Faulkner resigns her appointment as Sister (March 2).

London Gazette, March 26, 1926

General Duties Branch

The following are granted short service commissions, as Pilot Officers on probation, with effect from and with seny. of March 13:—R. A. Barnett, B. J. Bushe-Caryesford, G. Carleton, J. Constable-Roberts, J. W. Duggan, I. J. Fitch, R. S. Fleming, J. H. Harris, H. P. Hudson, R. J. Legg, A. A. Leslie, N. McLeod, R. R. Nash, R. G. Pace, E. J. Pentland, N. C. Pleasance, N. C. Ross-Roberts, G. H. Shaw, S. R. Sherman, M. A. Smyth, L. R. Stokes, G. A. V. Tyson, E. F. Wain.

The following Pilot Officers on probation are confirmed in rank:—H. C. Macphail; March 17. W. A. Andrews, W. E. Barnes, J. Blackmore, W. G. Campbell, H. C. G. Dauncey, J. M. Hunter, J. F. Lawn, H. G. Loch, L. H. Mason, T. F. Moloney, C. M. Peabody, R. T. Read, G. L. G. Richmond, J. T. Riggs; March 26. K. Garston-Jones, S. H. White; March 28.

Stores Branch

Pilot Officer on probation E. H. Broad is confirmed in rank; Feb. 10.

Croydon Aerodrome : Obstructions

It is notified:—

With reference to Notice to Airmen No. 58 of 1925 all pilots are warned that four telescopic masts 56 ft. high and 120 ft. apart have been erected in line from N.—S., 20 ft. to the W. of the building line on the E. side of this aerodrome.

These masts will carry flags by day and red obstruction lights by night, and are placed in such a position that any aircraft clearing the tops of these masts when gliding into

the aerodrome will also clear all derricks or other high obstructions. The lower obstructions are being indicated by boundary lights in the normal manner.

Attention is drawn to the fact that each mast is supported by steel stay wires extending up to the top of the mast from points on the ground 20 ft. from its base.

As the building work extends two further masts will be added to the N. of, and in line with, the existing four masts.

All six masts will eventually be painted with alternate grey and white bands 3 ft. wide.

(No. 12 of 1926.)

THE ROYAL AIR FORCE MEMORIAL FUND.

THE fortnightly meeting of the Grants Sub-Committee of the Fund, was held at Iddesleigh House, on March 25. Lieut.-Commander H. E. Perrin was in the chair, and the other Members of the Committee present were:—Mrs. L. M. K. Pratt-Barlow, O.B.E., Squadron-Leader E. B. Beauman. The Committee considered in all 15 cases, and made grants to the amount of £76 1s. The next Meeting was fixed for April 15, at 2.30 p.m.

Cobham at Aeolian Hall

ON March 26 Mr. Alan J. Cobham gave a personal account of his London-Cape Town-London flight to a large audience at the Aeolian Hall. The lecture was illustrated by an excellent series of lantern slides, but one did feel at times that the cinematograph film was required for adequately illustrating some of the adventures of the journey. However, doubtless that will follow at a later date, when the films have been "edited" and prepared for exhibition. Mr. Cobham apologised for the somewhat disjointed nature of the lecture, and said that it had only been finished a short time before the lecture was due to start, owing to his having been extremely busy in various directions. His modest account of his achievement was received with repeated and prolonged applause, but one somehow suspects that his two passengers did not quite regard the flight as the Sunday school picnic Cobham would have us believe it to have been. He is now commencing a series of lectures in various parts of the country, and we would advise all of our readers who have the opportunity not to miss the chance to hear him describe what must have been a very wonderful adventure.

Fuel Supplies on the Big Cobham Flight

ONE very interesting—and extremely important—point in connection with Mr. Alan Cobham's remarkable flight from London to Cape Town and back, which demonstrates the care and thoroughness of his organisation, is to be found in the matter of fuel distribution along the various stops on the route. Some time before leaving England supplies of

petrol had been distributed to over 20 different stations, some of which were remote from any railway and could only be reached by water carriers. On arrival at Athens, Mr. Cobham discovered that petrol was not entirely suited to tropical flight and must be mixed with a proportion of benzol. As there was no time to be lost, he at once telegraphed to Messrs. Cox and King's Shipping Agency, at Cairo, instructing them to obtain the necessary supplies from the Royal Air Force at Aboukir and to distribute as follows:—To Sollum, 50 gallons; to Cairo, 60 gallons; Assuan, 40 gallons; Wadi Halfa, 40 gallons; Khartoum, 70 gallons; Malakal, 60 gallons; Mongalla, 60 gallons; Jingo, 40 gallons; Kisumu, 40 gallons; Tabora, 55 gallons; Abercorn, 55 gallons; N'dola, 35 gallons; Broken Hill, 35 gallons; Livingstone, 35 gallons; Bulawayo, 50 gallons. All these highly important arrangements were rushed through at the eleventh hour by Messrs. Cox and King's representative in Cairo. The slightest hitch must have delayed, or even jeopardised, the whole undertaking, but by dint of many hours consecutive toil and with cordial co-operation of district magistrates and other local authorities, they were carried to a successful conclusion. Moreover, in view of the National and Imperial importance of Mr. Cobham's venture, Messrs. Cox and King placed their staff unreservedly at his disposal, and carried out the whole of his work at cost without any profit to themselves.

R.Ae.C Monthly House Dinner

THE Royal Aero Club will hold its next monthly house dinner at the Royal Aero Club on Wednesday, April 14, 1926, at 7.15 p.m. Sir Samuel Hoare, the Secretary of State for Air, will open the discussion on "The Future of Flying." The Duke of Sutherland will be in the Chair. The number is limited to 60. Dinner 6s. Morning dress. Members wishing to attend should notify the Secretary beforehand.

R.A.F. Flying Accident

THE Air Ministry regrets to announce that as a result of an accident at Abu-Sueir, Egypt, to a D.H. 9A of No. 4 Flying Training School, Abu-Sueir on March 26, Pilot Officer Ivan Randolph Sweeting was killed and No. 317455 Sergeant Rupert Horrocks, the pilot of the aircraft, was seriously injured and died shortly afterwards.

CORRESPONDENCE

The Editor does not hold himself responsible for opinions expressed by correspondents. The names and addresses of the writers, not necessarily for publication, must in all cases accompany letters intended for insertion in these columns.

"STALLED FLIGHT AND CONTROL"

[2131] I have read with great interest Capt. F. T. Courtney's article upon "Stalled Flight and Control" in THE AIRCRAFT ENGINEER of February 25 and the correspondence on this matter in subsequent issues of FLIGHT. Capt. Courtney appears to hold the opinion that all attempts to improve the pilots' lateral control over aircraft that have stalled are waste of time. Such a view can only be grounded upon a belief that, once an aeroplane has stalled, its rate of descent and the distance of descent out of control are independent of anything that could conceivably be done by the lateral controls. If this is his belief, it is incorrect; there is a very great difference between the least inevitable rate of descent of a stalled glide, and the rate of descent in the spin, and in the dive which follows the spin. Impact with the ground in the former state would, it is true, be a serious matter, and would inevitably damage any aeroplane in use at present, but the nature of the accident which would result is very different from that which follows from a spin into the ground, with its nearly nose-on impact at very high speed.

Granted, as must be granted from statistical evidence, that many accidents still occur from pilots stalling involuntarily when near the ground, surely it is a matter of importance that they should retain, after doing so, the power to choose, as far as possible, their direction and rate of descent, rather than that they should be forced, through lack of control, into the familiar spin and the subsequent high-speed dive. If this is granted, then it is essential to study control at incidences greater than the stall, for, having once stalled, still higher incidences are liable to be reached involuntarily. It is most important that this argument in Capt. Courtney's article should be discussed fully, for if he were correct, researches—both past and in contemplation—into over-stalled control would indeed be waste of time, at least from the immediate practical point of view. I do not, however, believe that his view is supported by the consensus of opinion amongst experienced pilots, and for my own part I am sure that it is not correct. It would be interesting to discover whether Capt. de Havilland's general endorsement of Capt. Courtney's article (contained in his letter in FLIGHT of March 11) implies agreement with this view that the power of control at incidences beyond the stall is a matter of no importance.

Turning to other aspects of Capt. Courtney's article, everyone will agree as to the necessity for making the stall an important feature of a pilot's training, but the necessity for such training is no reason for withholding from him any powers of control which can be given to him after he has stalled, nor do research activities into the question of control indicate that those conducting the researches hold that such training is unnecessary.

On the subject of automatic warnings of approach to the stall, Capt. Courtney's opinions are of interest, but they are, I believe, shared by few other pilots of experience.

The statement that the slot-and-aileron control does not do what is claimed for it, is incorrect. Its primary object is to give the pilot rolling control after stalling and this Capt. Courtney, in common with everyone else who has tried it, agrees that it does; in fact, he implies in his article that it is too effective! The device depends for its action in part upon its generating yawing moments different from those of simple ailerons—and in this respect also it behaves in the way it was expected to behave—but the precise definition of yawing moment is an intricate matter, and I can only suppose that Capt. Courtney has misinterpreted the popular explanations which have been given of the reasons for its action and, because it does not achieve its end in the way he believes it is supposed to do, has jumped to the conclusion that it does not do what is claimed for it.

Finally, if Capt. Courtney had read R. & M. 1000, the official account of these researches into stalled control, he would not have complained that the undoubted advantages of adequate rudder power have been overlooked.

Cambridge B. MELVILL JONES

March 26, 1926.

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Easter Air Mails

THE Postmaster-General announces that there will be no letter air mails to France, Belgium, Holland and Germany from April 2 to April 5, inclusive. Parcel air mails will be despatched to Paris, Holland and Germany on Saturday, April 3, but not on Good Friday nor Easter Monday.

SOCIETY OF MODEL AERONAUTICAL ENGINEERS

ON Saturday, March 27, the Society gave a model flying display at Halton Aerodrome, at the special invitation of the Halton Model Aeroplane Club. The Society was well represented by some 17 members, including the President, Dr. A. P. Thurston—the models taking part numbered 21, and many different types were in evidence. Although the weather was by no means ideal, much flying was done and quite a good exhibition was put up. (Space does not permit to give an account of the flying in detail.) The carrying out of the arrangements and the generous treatment of the Society made by the Halton Model Aeroplane Club were greatly appreciated. Such a visit we hope may be a stepping-stone on the way to the re-commencement of inter-club competitions in the near future.

Members are reminded that on Saturday, April 10, at 3 p.m., a General Records Day (including "speed" trials) is to be held at the Handley Page Aerodrome, Cricklewood. It is hoped that members will turn up in full strength, as a mark of appreciation for the kind permission given to the Society by Messrs. Handley Page to use their aerodrome.

B. K. JOHNSON, Secretary, S.M.A.E.

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PUBLICATIONS RECEIVED

Annual Report of the Smithsonian Institution for the Year ending June 30, 1924. The Smithsonian Institution, Washington, D.C., U.S.A. Price \$1.75 (cloth).

U.S. National Advisory Committee for Aeronautics: Technical Note No. 230.—The Spacing of Orifices for the Measurement of Pressure Distributions. By Max M. Munk. January, 1926. *Reports, No. 225.*—The Air Forces on a Model of the Sperry Messenger Airplane without Propeller. By Max M. Munk and W. S. Diehl. No. 228.—A Study of the Effect of a Diving Start on Airplane Speed. By W. S. Diehl. No. 232.—Fuels for High-Compression Engines. By S. W. Sparrow. United States Advisory Committee for Aeronautics, Washington, D.C., U.S.A.

1944. By the Earl of Halsbury. Thornton and Butterworth, Ltd., 15, Bedford Street, W.C. 2. Price 7s. 6d. net.

Canadian Patent Office Record. Vol. LIV, No. 10. March 9, 1926. The Canadian Patent Office, Ottawa, Canada.

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AERONAUTICAL PATENT SPECIFICATIONS

Abbreviations: Cyl. = cylinder; i.c. = internal combustion; m. = motor. The numbers in brackets are those under which the Specifications will be printed and abridged, etc.

Applied for in 1924.

Published April 1, 1926.

30,308. G. G. PARNALL and H. BOLAS. Alighting-gear of aircraft. (248,500.)

Applied for in 1925.

Published April 1, 1926.

4,252. BOULTON and PAUL, LTD., and J. D. NORTH. Construction of leading and trailing edge-fairings for wings, etc. (248,545.)
18,811. H. JUNKERS. Method of and means for flattening corrugated sheet metal. (238,214.)
22,584. G. FORNACA. Apparatus for controlling at a distance the carburettor of i.c. engine. (248,651.)
31,461. C. E. JONES. Distant-control devices for engine-stop-motions, etc. (248,682.)

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